

## Pharmacist's advice on appropriate medication use

❌ Healthy diet, exercises and weight control are no longer needed after taking cholesterol-lowering medications.

✅ Cholesterol-lowering medications can reduce blood cholesterol level, but excessive dietary intake of cholesterol could severely hinder the disease management. Therefore, the combination of medication use, healthy diet, weight control and regular exercise are all essential in reducing cholesterol level.

❌ Refuse to use medications because of potential side effects.

✅ Not everyone will experience side effects after using the medications. The severity of side effects also differs among individuals. You should not be too worried about the side effects of the medications. If you stop using the medications or change the dose or frequency due to potential side effects, your conditions may get worse. Most common side effects are mild and will subside when your body adapts to them. Consult your doctor or pharmacist if the side effects persist or worsen.

❌ Doctor asked me to take two types of cholesterol-lowering medications, but I think one is enough.

✅ The type of medications or dosage may vary in different patients according to their conditions and response to medications. Most patients require only one type of cholesterol-lowering medication but some may need additional medications. Do not stop taking your medications without doctor's advice.

❌ Reduce the dosage or even stop the medication because I do not have any symptoms.

✅ Patients who have high cholesterol level usually do not have any symptoms until blood vessels are significantly narrowed and blood flow is limited. Therefore, do not self-adjust the dosage merely based on your symptoms.

## Cholesterol content in foods

Food	Usual consumption quantity	Cholesterol (mg)	Fat (g)	Calorie
Plain rice	1 bowl	0	0.5	220
Fried rice	1 bowl	61	18	464
Barbecued pork rice	1 bowl	44	14	574
Spare rib rice	1 bowl	64	13	535
White bread	1 slice	0.5	1.8	134
Pineapple bun	1	17	7	235
Cocktail bun	1	17	7.5	221
Instant noodles	1 bowl	**	14.2	424
Wonton noodles	1 bowl	**	10.5	283
Beef stir-fry with rice noodles	1 plate	50	101	1237
Vegetable oil	1 teaspoon	0	4.5	40
Butter	1 teaspoon	11	4	36
Salad dressing	1 teaspoon	2	3.7	33
Lean meat	40 g (raw)	22	2.4	57
Common fish	80 g	80	3	80
Squid	1	350	2	138
Prawn	6	109	1	76
Scallop	1 piece	5	0.1	12
Chicken sausage	1	46	8.8	116
Luncheon meat	1 slice	20	10	110
Fried chicken wing	1	26	7	103

Food	Usual consumption quantity	Cholesterol (mg)	Fat (g)	Calorie
Boiled egg	1 (large)	212	5.3	78
Baked beans	1 teaspoon	1	0.2	16
Bean curd	1 cube	0	3	53
Boiled vegetable	120 g	0	0	28
Fried vegetable	120 g	0	6.8	88
Orange	1 (medium)	0	0.2	58
Apple	1 (medium)	0	0.5	89
Soft drink (juice)	250 ml	0	0.1	127
Fizzy drink	355 ml	0	0	151
Soy milk	250 ml	0	7.4	169
Skimmed milk	250 ml	5	0.5	90
Coffee/milk tea	1 cup	5	1	52
Beer	355 ml	0	0	147
Double-stewed soup	1 bowl	**	4	50
Steamed fresh prawn dumpling	1 piece	**	2.9	37
Siu mai	1 piece	6	3.5	42
Steamed rice roll with beef	1 roll	8	2.3	79
Steamed barbecued pork bun	1	**	2.9	94
Steamed lotus seed paste bun	1	1	1.1	118

Food	Usual consumption quantity	Cholesterol (mg)	Fat (g)	Calorie
Deep-fried taro dumpling	1 piece	3	9.9	113
Hamburger	1	30	10	270
Fish fillet burger	1	50	18	370
Pizza	1 slice	30	15	311
French fries	1 pack (small)	0	10	210
French toast	1 portion	119	15	379
Egg tart	1 piece	67	12	209
Cake	1 piece	66	6	116
Cookie	1 piece	0	1.6	34
Soda cracker	1 piece	0	0.7	26
(Referenced from Family Health Service, Department of Health)				
**Cholesterol content unknown				

**? For any queries, please seek advice from your doctor, pharmacist or other healthcare professionals.**

# Medications for the Heart – Cholesterol-lowering Medications



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What is cholesterol



Cholesterol is a type of fat that is produced by the liver or absorbed from food. Normally, our bodies can regulate the cholesterol level. However, when this regulation is not functioning or there is an excessive intake of cholesterol, the blood cholesterol level may be raised.

Cholesterol is found in every cell of the body and has important functions in hormones and bile production, and cell membrane formation. However, excessive intake of cholesterol is detrimental to our health. Persistent high cholesterol level leads to the formation of thick, hard deposits (plaques) that can cause hardening and narrowing or even clogging of blood vessels. Most commonly seen is the occlusion of the coronary arteries which can lead to chest pain, heart attack or even sudden death. Other risk factors for coronary heart disease include smoking, diabetes mellitus and high blood pressure. They would worsen the accumulation of plaques on inner walls of the arteries. It is therefore important to keep your blood pressure, cholesterol and blood sugar level within the optimal range to reduce the risk of developing cardiovascular diseases. You can check your cholesterol level by taking a blood test.

Moreover, it is important to control the amount of lipoprotein in our blood. Lipoproteins are substances that transport cholesterol around our body. They are classed into “good” and “bad” lipoproteins. High-density lipoprotein (HDL) cholesterol is considered as “good” cholesterol because it helps to protect the arteries so it is desirable to have a high HDL level. On the other hand, low-density lipoprotein (LDL) and very low-density lipoprotein (VLDL) cholesterol are considered as “bad” cholesterol because they contribute to the formation of plaque. As a result, the LDL and VLDL levels should be kept at a healthy range.

Having a good control of cholesterol level can reduce the risk of developing cardiovascular diseases.

In general, high cholesterol level should be managed by lifestyle changes before starting medication therapy.

Precautions on lifestyle

- ♥ Monitor blood pressure, blood lipid and blood sugar levels regularly.
- ♥ Have a balanced diet. Eat food with less salt, less fat and less cholesterol. Eat plenty of vegetables and fruits.
- ♥ Quit smoking. Limit consumption of alcohol.
- ♥ Exercise regularly.
- ♥ Maintain an appropriate body weight, especially for overweight and obese patients.
- ♥ Take enough rest, manage stress and maintain a positive attitude.

Precautions on medication use

- ♥ Use the medications as directed. Do not stop using the medications or change the dose or frequency unless directed by your doctor.
- ♥ Use the medications preferably at the same time every day.
- ♥ If you have history of drug allergy, consult your doctor or pharmacist before using the medications.
- ♥ Tell your doctor and pharmacist if you are pregnant, planning to become pregnant or breastfeeding.
- ♥ Consult your doctor or pharmacist before using any other medications, including health supplements, Traditional Chinese Medicines, Proprietary Chinese Medicines and over-the-counter medications.
- ♥ Please consult your doctor or pharmacist if you encounter any difficulties in using the medications.
- ♥ Please consult your doctor if symptoms persist or worsen after using the medications.

Cholesterol-lowering medications

Classes of medications	Common side effects	Precautions
<b>Statins</b> Atorvastatin, Rosuvastatin, Simvastatin	Headache, stomach upset, muscle pain	※ Simvastatin should be taken after dinner. ※ Avoid in pregnancy or breastfeeding. ※ Contact your doctor immediately if you experience any unexplained muscle pain or weakness, loss of appetite, nausea, vomiting, dark urine, yellow skin or eyes, etc. ※ Avoid grapefruit or grapefruit juice while taking simvastatin.
<b>Fibrates</b> Fenofibrate, Gemfibrozil	Severe stomach pain, skin rash	※ Fenofibrate: Swallow with water, do not chew. ※ Gemfibrozil: Take 30 minutes before meal. ※ Contact your doctor immediately if you experience any unexplained muscle pain or weakness.
<b>Cholesterol absorption inhibitors</b> Ezetimibe	Headache, fatigue, abdominal pain, stomach upset, flatulence, nausea	
<b>Bile acid sequestrants</b> Cholestyramine	Constipation, gas or bloating, stomach upset	※ Do not take this medication in its dry powder form. It must be mixed with fluids and is more palatable if mixed with juices. ※ Side effects can be reduced by eating more high fibre-containing food (like vegetables) and drinking more fluids. ※ Any other medications should be taken at least 1 hour before or 4 hours after cholestyramine as this may prevent other medications from being absorbed by the body.
<b>PCSK9 inhibitors</b> Alirocumab, Evolocumab	Injection site reaction (redness, pain, bruising), influenza, inflammation of the nose and throat, upper respiratory tract infection, muscle pain, nausea	※ Refrigerate; protect from light. ※ For subcutaneous use only. ※ Discard unused portion. ※ Do not shake.
※ If you experience sleepiness, dizziness or blurred vision after taking the medications, avoid driving or activities requiring mental alertness or coordination. Avoid alcohol as it may increase the side effects. ※ If you notice any allergic reactions like skin itchiness, face or hand swelling, breathing difficulty, etc., consult your doctor immediately.		

What if I miss a dose?

Use the missed dose as soon as you remember. Skip the missed dose if it is almost time for your next scheduled dose.

Do not double the dose.

How to store?

- ♥ Store in a cool, dry place and away from direct heat and light.
- ♥ Keep out of reach of children.
- ♥ Discard all medications that have expired or are no longer required.
- ♥ Do not share the medications with other people.